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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/628,657

07/28/2003

William B. Andrews

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22186

7590

09/28/2004

MENDELSON AND ASSOCIATES PC  
1515 MARKET STREET  
SUITE 715  
PHILADELPHIA, PA 19102

EXAMINER

TAN, VIBOL

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/628,657	<b>Applicant(s)</b> ANDREWS ET AL.	
	<b>Examiner</b> Vibol Tan	<b>Art Unit</b> 2819	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.  
2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5, 8, 10-18, 20 and 21 is/are rejected.  
7) ☒ Claim(s) 6, 7, 9 and 19 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 8, 10-18, 20, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Best et al. (U. S. PAT. 6,683,472).

In claim 1, Best et al. teaches all claimed features in Fig. 3, a programmable device having programmable input/output (I/O) circuitry (Fig. 2 or 3) and programmable logic connected to receive incoming signals from and provide outgoing signal to the I/O circuitry (col. 4, lines 1-10), wherein: the I/O circuitry can be programmed to function in an independent mode (single ended; 210, 211) of operation in which first (208) and second (209) pads of the programmable device operate independent of one another; and the I/O circuitry can be programmed to function in one (differential, 205) or more dependent modes of operation in which a pair (differential ended) of related signals appear at the first and second pads (208, 209), respectively.

In claim 2, Best et al. further teaches the invention of claim 1, wherein the programmable device is an FPGA (FPGA is read as one of the electronic components mentioned in col. 1, line 15, of Best).

In claim 3, Best et al. further teaches the invention of claim 1 in Fig 3, wherein, for the first and second (208, 209) pads, the I/O circuitry comprises: (a) a first programmable impedance (302) switchably (301) connected between the first pad (209) a first terminal (206); (b) a second programmable impedance (304) switchably (303) connected between the first pad (208) and a second terminal (207); (c) a third programmable impedance (306) switchably (305) connected between the second pad (209) and a third terminal (206); (d) a fourth programmable impedance (308) switchably (307) connected between the second pad and a fourth terminal (207) and second pad (209); (e) a fifth programmable impedance (intrinsic inside 205) switchably (309, 310) connected between the first pad (208) and the second pad (209).

In claims 4 and 5, Best et al. further teaches the invention of claim 3, wherein each programmable impedance is a programmable resistor (col. 5, lines 30-38); and wherein each programmable impedance is independently programmable (separate switches).

In claims 8 and 10, Best et al. further teaches the invention of claim 1 in Figs 2 and 3, wherein, the first programmable impedance (302) and the second programmable impedance (304) can be programmably operated as a first push-pull buffer (201); and the third programmable impedance (306) and the fourth programmable impedance (308) can be programmably operated as a second push-pull buffer (211); and wherein reference voltages (VR1, VR2, VR1, VR2) or data signals can be independently applied to each terminal.

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In claims 11- 18, Best et al. further inherently teaches in col. 4, lines 3-10, wherein one or more dependent modes of operation include differential and complementary of operation.

Claim 20 corresponds to detailed circuitry already discussed similarly with regard to claim 2.

Method claim 21 corresponds to detailed circuitry already discussed similarly with regard to claim 2.

3. Claims 6, 7, 9, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

It is noted the IDS form 1449 submitted by applicant 7/28/2003 was not available (missing from file) for consideration at the time of examination.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vibol Tan whose telephone number is (571) 272-1811. The examiner can normally be reached on Monday-Friday (7:00 AM-4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike J. Tokar can be reached on (571) 272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vibol Tan

Primary Examiner, AU 2819



**VIBOL TAN**  
**PRIMARY EXAMINER**